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Serial No. 10/736,921
60246-220; 10691**REMARKS**

Applicant wishes to thank the Examiner for the detailed remarks. Claims 1, 3, 28, 30, and 33 have been amended. Claims 22 and 35 have been cancelled, and new claims 36 and 37 are presented. Accordingly, claims 1-21, 23-34, 36, and 37 are pending in the application.

The Examiner objected to claim 3 because the numeral "4" is not subscript. The claim has been amended to subscript the numeral "4", as suggested by the Examiner.

Claims 30 and 33 were rejected under 35 U.S.C. 112, second paragraph, because the variable "x" in the claims is not defined. The claims have been amended to delete the variable "x."

Claims 1-12, 17-20, 28, and 30 were rejected under 35 U.S.C. §102(b) as being anticipated by Kobayashi. Independent claims 1 and 28 have been amended to recite "a layered catalytic coating applied on said substrate, wherein said layered catalytic coating comprises a first layer of a photocatalytic coating that is operative to react with a target substance to produce a first intermediate substance, a second layer of a photocatalytic metal loaded metal compound coating that is operative to react with the first intermediate substance to form a second intermediate substance, and a third layer of a thermocatalytic coating that is operative to react with the second intermediate substance to produce a product substance." Thus, the three layers of Applicant's claims cooperate to react with a target substance to produce a product substance. Kobayashi discloses using a multi-layered photocatalytic coating; however, Kobayashi does not disclose or suggest that the layers cooperate in any way to react with a contaminant. For this reason, the claims are allowable, and Applicant requests that the rejection be withdrawn.

Claims 13-16 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi. Claims 13-16 and 21 depend from independent claim 1, which as explained above, includes limitations that are not found or suggested in Kobayashi. For this reason, Applicant requests that the rejection be withdrawn.

Claims 29 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kobayashi in view of Reisfeld. The Examiner argues that Kobayashi discloses all of the limitations of the claim except that the substrate is a honeycomb. The Examiner further argues that Reisfeld discloses a photocatalytic fluid purification system and that it would have been obvious to one of ordinary skill in the art to have modified Kobayashi as taught by Reisfeld

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because "the selection of any known equivalent substrates for the photocatalytic fluid purification would be within the level of ordinary skill in the art."

Respectfully, Applicant disagrees that the Examiner has established motivation for *prima facie* obviousness. Whether or not the substrates of Kobayashi and Reisfeld are equivalents does not alleviate the burden on the Examiner providing motivation to modify the base reference. The rejection fails to state any motivation to modify the base reference, and should therefore be withdrawn.

Additionally, even if the substrate of Reisfeld is equivalent to the substrate of Kobayashi as the Examiner argues, there is no motivation to substitute one of the substrates for the other. Indeed, there would be no benefit to doing so since the Examiner thinks they are equivalent. Accordingly, the rejection fails to establish *prima facie* obviousness and should be withdrawn.

Claims 17-20, 22, 23, and 31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kobayashi in view of Reisfeld. The Examiner argues that Kobayashi discloses all of the limitations of the claim except a container, a device for drawing fluid into the container, and a UV light source. The Examiner further argues that Reisfeld discloses these features and that it would have been obvious to one of ordinary skill in the art because "this would result in the application of Kobayashi's photocatalytic metal to a photocatalytic fluid purification system (photocatalytic air purifier)."

Respectfully, Applicant disagrees that the Examiner has established motivation for *prima facie* obviousness. It is axiomatic that an obviousness rejection requires some benefit to result from modifying the base reference. The rejection fails to state any motivation or benefit that would result from the proposed modification.

Furthermore, the Examiner's statement that the modification is obvious because "this would result in the application of Kobayashi's photocatalytic metal to a photocatalytic fluid purification system (photocatalytic air purifier)" is not motivation because this merely points out a mechanical combination of the references and fails to identify any reason or benefit for making the modification. For these reasons, the rejection should be withdrawn.

Claims 24-27, 32, and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Reisfeld in view of Kobayashi. The Examiner argues that Reisfeld discloses a photocatalytic fluid purification system having three honeycomb photocatalytic filters that are each coated with a suitable photocatalytic coating (paragraph 24). The Examiner further argues that Kobayashi

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discloses a plurality of photocatalytic compositions and that it would have been obvious to one of ordinary skill in the art to modify Reisfeld with the photocatalytic compositions as shown in Kobayashi because "this would result in enhancing the photocatalytic fluid purification."

Respectfully, the rejection fails to establish *prima facie* obviousness because there is no motivation for modifying Reisfeld to include the coatings having the particular compositions that are recited in independent claim 24. Reisfeld teaches (para. 24) "that any suitable catalytic coating 120 may be disposed on elements 12, 14, or 16." Applicant notes that the term "coating" used in Reisfeld is singular, thereby indicating that the same type of coating would be applied on each of the substrates 12, 14, and 16. The rejection fails to provide any motivation for selecting or using the particular coating compositions recited in independent claim 24. For these reasons, the rejection should be withdrawn.

Regarding claim 27, the Examiner argues that random and general selection of the order of the substrates would be equivalent to the claimed order because there are no unexpected results that occur from the claimed order. To the contrary, the order is significant because the downstream substrate and its coating composition would destroy at least some of the intermediate products formed from the upstream substrate/coating composition (e.g., see specification paragraph 49 and generally the types of substances that the various coating compositions destroy as described throughout the specification). Therefore, the order of the substrates is significant and the rejection must provide motivation for selecting or using the order that is recited in the claim. For this reason, the rejection should be withdrawn.

Claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kobayashi in view of Reisfeld and in further view of Applicant's own admission. Claim 35 has been cancelled and the rejection should be withdrawn.

No additional fees are seen to be required. If any additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 03-0835 in the name of Carrier Corporation for any additional fees or credit the account for any overpayment.

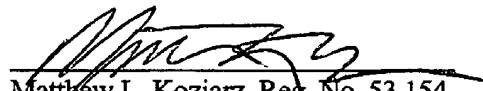
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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (571) 273-8300, on February 28, 2007.


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